

DERWENT-ACC-NO: 1983-813446

DERWENT-WEEK: 198345

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TITLE: Enamel coating for water supply pipes -  
includes oxide(s) of titanium, tin, chromium and nickel,  
to reduce softening temp. and increase water resistance

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PATENT-ASSIGNEE: URALS PIPE IND RES[URAI]

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PATENT-FAMILY:

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BASIC-ABSTRACT:

The enamel coating can be used for steel pipes employed in cold and hot water supply systems. It comprises (in wt.%): SiO<sub>2</sub> 38-40; Al<sub>2</sub>O<sub>3</sub> 1.5-1.9; Na<sub>2</sub>O 15.5-18.0; K<sub>2</sub>O 2.0-3.3; Li<sub>2</sub>O 3.6-4.5; B<sub>2</sub>O<sub>3</sub> 8.0-12.0; MnO<sub>2</sub> 3.5-5.2; Co<sub>2</sub>O<sub>3</sub> 0.9-1.2; F 3.7-4.5; NiO 0.7-0.9; TiO<sub>2</sub> 5.0-8.3; SnO 5.8-6.5; and Cr<sub>2</sub>O<sub>3</sub> 2.3-3.2. The presence of TiO<sub>2</sub>, SnO, Cr<sub>2</sub>O<sub>3</sub> and NiO (as oxygen-contg. cpd. of Ni) reduces the softening temp. and increases water resistance.

Typical properties of the coating are as follows: water resistance in cold and hot water 0.08-0.11 and 0.11-0.16% respectively; acid resistance in 20% HCl soln. 0.30-0.35 mg/sq.cm. alkali resistance 0.42-0.47 mg/sq.cm; firing

interval 630-800 deg. C; heat resistance 230-270 deg. C; coefft. of thermal expansion  $115-122 \times 10$  power minus 7 per degree; and softening starting temp. 365-405 deg. C. Bul. 2/15.1.83.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: ENAMEL COATING WATER SUPPLY PIPE OXIDE TITANIUM TIN CHROMIUM

NICKEL REDUCE SOFTEN TEMPERATURE INCREASE WATER RESISTANCE

DERWENT-CLASS: L01 M13

CPI-CODES: L01-A01B; L01-A03A; L01-A03C; L01-A06D; L01-A07B; L01-H06; M13-J;

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